

DEPARTMENT of ENVIRONMENTAL SERVICES  
Water Supply & Pollution Control Division - Biology Bureau

LAKE TROPHIC DATA

MORPHOMETRIC:

Lake: HORN POND	Lake Area (ha):	80.13
Town: WAKEFIELD	Maximum depth (m):	9.1
County: Carroll	Mean depth (m):	3.9
River Basin: Coastal	Volume (m <sup>3</sup> ):	3155000
Latitude: 43°33'42" N	Relative depth:	0.9
Longitude: 70°57'31" W	Shore configuration:	2.02
Elevation (ft): 554	Areal water load (m/yr):	32.42
Shore length (m): 6400	Flushing rate (yr <sup>-1</sup> ):	8.20
Watershed area (ha): 4656.3	P retention coeff.:	0.42
% watershed ponded: 18.7	Lake type:	natural w/dam

BIOLOGICAL:

9 January 1996

15 August 1995

DOM. PHYTOPLANKTON (% TOTAL)	#1	ASTERIONELLA 85%	CHRYOSOPHAERELLA 35%
	#2	DINOBYRON 10%	ASTERIONELLA 25%
	#3		CERATIUM 5%
PHYTOPLANKTON ABUNDANCE (units/mL)			
CHLOROPHYLL-A (µg/L)			5.93
DOM. ZOOPLANKTON (% TOTAL)	#1	KELICOTTIA 25%	KERATELLA 29%
	#2	POLYARTHRA 13%	NAUPLIUS LARVA 25%
	#3		
ROTIFERS/LITER		29	41
MICROCRUSTACEA/LITER		16	40
ZOOPLANKTON ABUNDANCE (#/L)		52	84
VASCULAR PLANT ABUNDANCE			Sparse
SECCHI DISK TRANSPARENCY (m)			6.9
BOTTOM DISSOLVED OXYGEN (mg/L)		8.7	0.3
BACTERIA (E. coli, #/100 ml)	#1		20
	#2		9
	#3		

SUMMER THERMAL STRATIFICATION:

stratified

Depth of thermocline (m): 7.0  
Hypolimnion volume (m<sup>3</sup>): None  
Anoxic volume (m<sup>3</sup>): 38350

**CHEMICAL:**

Lake: HORN POND

Town: WAKEFIELD

	9 January 1996		15 August 1995		
DEPTH (m)	3.0	6.0	3.0		7.5
pH (units)	6.0	6.1	7.1		6.6
A.N.C. (Alkalinity)	7.2	8.7	7.9		11.6
NITRATE NITROGEN	< 0.10	< 0.10	< 0.10		< 0.10
TOTAL KJELDAHL NITROGEN	0.14	0.18	0.18		0.27
TOTAL PHOSPHORUS	0.004	0.004	0.005		0.009
CONDUCTIVITY ( $\mu$ mhos/cm)	58.1	57.7	54.4		58.4
APPARENT COLOR (cpu)	23	24	30		45
MAGNESIUM			0.64		
CALCIUM			3.5		
SODIUM			4.9		
POTASSIUM			0.41		
CHLORIDE	9	9	9		8
SULFATE	4	4	4		3
TN : TP	35	45	36		30
CALCITE SATURATION INDEX			2.8		

All results in mg/L unless indicated otherwise

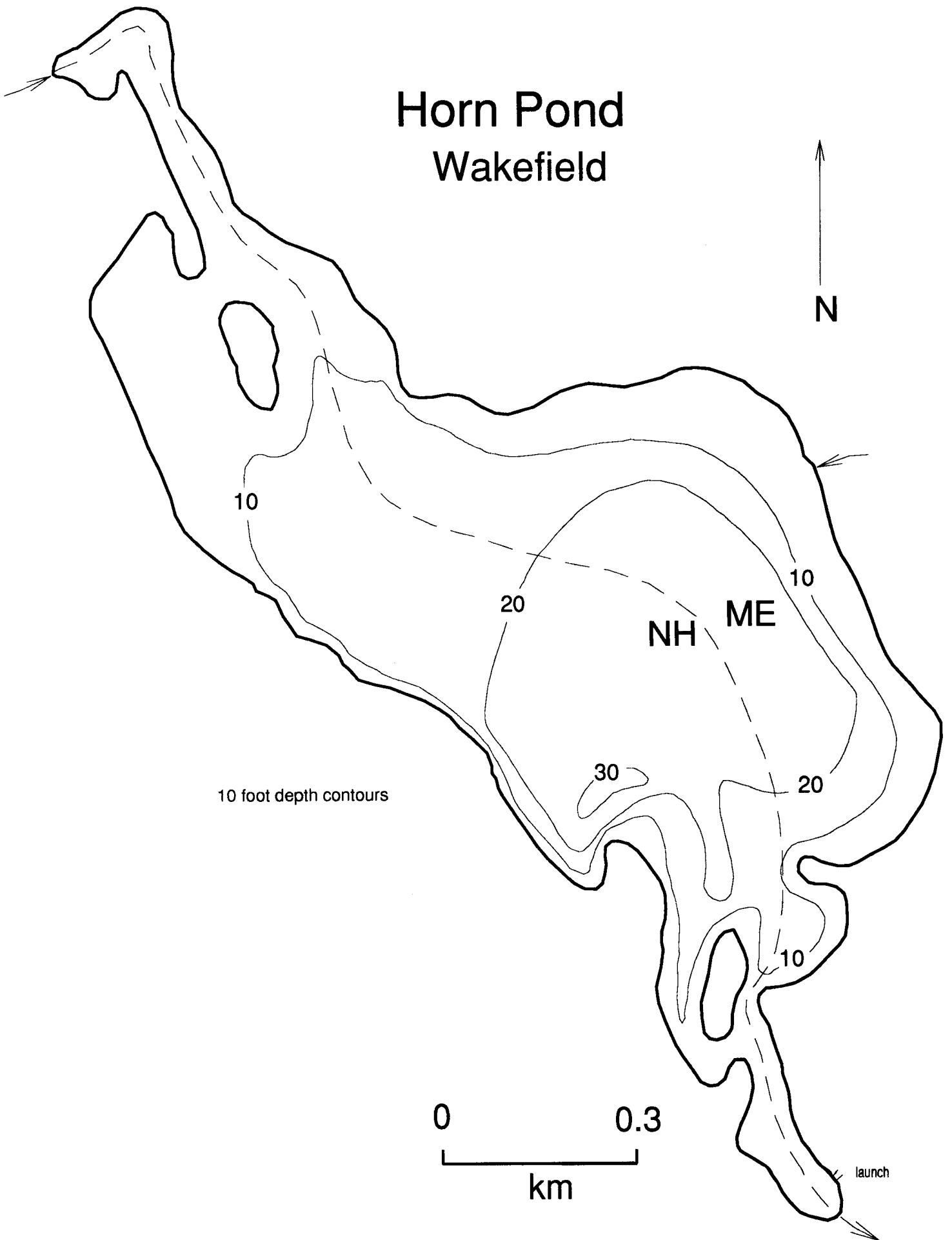
**TROPHIC CLASSIFICATION: 1995**

D.O. S.D. PLANT CHL TOTAL CLASS

**	1	0	1	2	Oligo.
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**COMMENTS:**

1. A.K.A. Horns Pond.
2. This pond was previously surveyed and classified in 1982. There was no change in trophic classification and little change in water quality between the two years. A deeper depth was sampled in 1995 which accounts for the lesser dissolved oxygen present at the bottom of the pond.
3. Horn Pond participated in DES' Volunteer Lake Assessment Program for three years (1993-95). Sufficient data is not available to evaluate trends in water quality.
4. Horn Pond is a natural pond raised by a dam on the Salmon Falls River forming the border between New Hampshire and Maine. An excellent boat ramp is present on the Maine side near the dam.



[illegible]

TOWN: WAKEFIELD  
WEATHER: CLOUDY

[illegible]

**COMMENTS :**

\*Dissolved oxygen values are in mg/L

[illegible]

**AQUATIC PLANT SURVEY**

LAKE: HORN POND	TOWN: WAKEFIELD	DATE: 08/15/95
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[illegible]

OVERALL ABUNDANCE: Sparse

GENERAL OBSERVATIONS:

1. Plants were locally abundant in the northern inlet area which is very shallow except for the narrow river channel. The area between the northern island and north shore was blocked to boat traffic because of dense pickerelweed and sedge growth. When the lake is taken as a whole, however, the overall plant growth was rated as sparse.
2. Two loons were observed.